



# Plutonium 239 in Sewage Sludge Used as a Soil or Soil Amendment in the Livermore Community

February 2003...

On Wednesday, February 19, 2003 a public meeting be held at the City of Livermore Council Chamber, 1052 S. Livermore Avenue, Livermore, CA from 7:00 PM-9:30 PM to present and discuss the public health findings related to Plutonium 239 in Sewage Sludge in the Livermore community.

## Why is ATSDR conducting a public health assessment (PHA) about the plutonium 239 in sewage sludge?

The potential off-site exposure to plutonium 239 (Pu 239) released from the Lawrence Livermore National Laboratory (LLNL) to the Livermore Water Reclamation Plant (LWRP) has been identified as a specific community concern. Because ATSDR has determined that the Pu 239-contaminated sludge, released from the laboratory to the reclamation plant and distributed to the Livermore community, represents a completed exposure pathway, the Agency for Toxic Substances and Disease Registry (ATSDR) conducted an evaluation to determine whether exposure to sewage sludge poses a public health hazard.

## What is ATSDR?

The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency of the U.S. Department of Health and Human Services. It was created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also known as the Superfund legislation). ATSDR's mission is to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances.

## How did ATSDR become involved with the LLNL site?

ATSDR is required to conduct a public health assessment (PHA) of all facilities proposed for listing on the NPL. The LLNL site was placed on the Superfund National Priorities List in 1987. As part of ATSDR's public health activities for the LLNL site, we have initiated a PHA on the Plutonium 239 in sewage sludge used as a soil or soil amendment in the livermore community.

## What is a public health assessment?

A public health assessment is an evaluation of whether community exposures to hazardous substances from a site might cause any harm to people.

## How did ATSDR evaluate the public health implications?

In order to evaluate the public health implications of the historical distribution of Pu-contaminated sludge to the Livermore community, three specific questions were addressed: (1) What concentration of Pu 239 in sludge would produce doses of public health concern; (2) Were the concentrations of Pu in the sludge distributed to the public by LWRP greater than the levels of potential health concern? (3) Do the available data provide an adequate basis for this PHA?

## What were the conclusions of the public health assessment?

The following conclusions are based on our current knowledge of radiation health effects and the data reviewed and evaluated in the PHA:

- Pu 239 from LLNL was released to the Livermore sewer system, which contaminated LWRP sludge that might have been distributed to the Livermore community. The contamination resulted in areas of above background soil concentrations of Pu 239.
- Using health protective exposure assumptions, radiological doses from maximum concentrations of distributed sludge are below levels of health concern.

- The available data and evaluations provide an adequate basis for these public health conclusions. Any additional sampling data will be subject to the same uncertainties as existing historical data.

On the basis of the above conclusions, ATSDR finds that the historic distribution of Pu-contaminated sewage sludge is not a public health hazard. This determination means that while exposure might have occurred, or might still be occurring, the resulting doses will not cause sickness or death.

## **Were there any recommendations made, on the basis of the conclusions?**

Yes, ATSDR offers the following recommendations:

- Develop and present educational materials, on the basis of the information included in the PHA, to the Livermore community.
- Continue current monitoring of Pu 239 (and other contaminant) concentrations in LLNL effluent and the LWRP sewage treatment system (as stipulated by existing discharge permit requirements).

## **For more information, whom should I call?**

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or

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**For additional information,  
visit ATSDR's Internet address at  
<http://www.atsdr.cdc.gov>**